

TENNESSEE DEPARTMENT OF AGRICULTURE
Division of Regulatory Services

(U.S. Postal Address)

C. E. Kord Animal Disease Laboratory
P.O. Box 40627, Melrose Station
Nashville, Tennessee 37204-0627

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C. E. Kord Animal Disease Laboratory
Ellington Agricultural Center
440 Hogan Road
Nashville, Tennessee 37220

Telephone Numbers

Information	615-837-5125
Brucellosis Results	615-837-5120
Tissue Receiving	615-837-5410
Serology	615-837-5221
Virology	615-837-5268
Bacteriology	615-837-5427
EAC Security	615-837-5401
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INTRODUCTION

The C. E. Kord Animal Disease Laboratory is the State of Tennessee's veterinary diagnostic laboratory. It is funded by legislative appropriation and fee revenue, and operates within the Tennessee Department of Agriculture, Division of Regulatory Services. Free diagnostic services are provided to livestock and poultry producers except for a small fee charged for equine infectious anemia serology. Modest fees are also charged for companion animal diagnostic services.

The operational philosophy of the laboratory is to work through the local veterinary practitioner, who is best able to evaluate the client-producer's problems and recommend appropriate actions. The mission of the laboratory is to provide accurate and timely diagnostic services to the practitioner who serves livestock and poultry producers as well as owners of companion animals in Tennessee. We strongly recommend that case material be submitted by or at the direction of a practicing veterinarian, although owners may submit cases directly. Results of examinations, analyses, and tests will be returned to the practitioner for his consideration in formulating a diagnosis and recommending action to his client. Upon request by the practicing veterinarian, staff pathologists are available for field consultation when the magnitude of the problem indicates such. Some test results necessarily have to be routed through the State Veterinarian because of regulatory requirements.

If at any time there is a question regarding a capability, please call ahead to be assured of that service and its submission requirements. We also appreciate your comments regarding the laboratory.

We especially invite veterinarians or their technicians to spend a day in the laboratory meeting the staff and observing methods used in various diagnostic procedures. This helps us understand your problems related to laboratory use and helps you in preparing submissions so that the most useful information may be obtained from a submission. We welcome you to set up an appointment for a day of laboratory observation. Time spent at the laboratory may qualify as continuing education, which is required for license renewal.

GUIDELINES OF OPERATION

- A. Laboratory hours are 8:00 AM to 4:30 PM, Central Time. Holidays are observed for New Years, Martin Luther King's birthday, Presidents' Day, Good Friday, Memorial Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving and the following day, and Christmas. For after hours submission of animals, please call (615) 837-5125 and follow the instructions.
- B. Fees (subject to change)
1. **Bacteriology:** The fees for bacteriologic testing are twelve dollars (\$12.00) for the first specimen, then six dollars (\$6.00) per specimen thereafter per case, plus six dollars per isolate for antibiotic sensitivity tests.
 2. **Immunology:** The fees for most immunologic testing are twelve dollars (\$12.00) per test, per sample. Exceptions: Lyme disease, IFA eighteen dollars (\$18.00) and Cryptococcus, latex is nineteen dollars (\$19.00).
 3. **Virology:** The fees for virologic testing are fifteen dollars (\$15.00) per test.
 4. **Pathology:** The fees for pathological examination are as follows:
 - i. Necropsy (excludes toxicology) - \$35.00 per animal
 - ii. Histopathology - \$24.00 per animal
 - iii. Submitter special stain - \$12.00 per slide
 - iv. Cytology - \$15.00 per tissue
 - v. Extra slide preparation - \$8.00 per slide
 - vi. Bone marrow evaluation - \$15.00 per case
 - vii. Necropsy plus toxicology - \$60.00 per animal per case
 5. **Toxicology:** The fees for toxicological testing are twenty-five dollars (\$25.00) for the first test, then twelve dollars (\$12.00) per test thereafter per case.
 6. **Miscellaneous charges:** Other miscellaneous fees are calculated as follows:
 - Mailing/shipping cost of service
 - Handling/packaging fee - \$2.00
 - Sample supplies – Cost plus 10%
 - Past due accounts – 2.0% per month after 60 days
 - New test development – cost of service
 - Histology slides to be sent out - \$8.00 per tissue block
- C. All submissions should be accompanied by an appropriate submission form. The form must be filled out entirely.
- D. Animals should not be brought to the laboratory on an outpatient basis for collection of specimens.
- E. Reports: A faxed or telephone report will be given on any significant laboratory findings as they become available or if the result requires an explanation by a veterinary diagnostician. Please provide a legibly written telephone number, including the area code, when requesting a telephone report. A written report will be issued to the referring veterinarian upon completion of the case unless results are transmitted via telephone facsimile, in which case, the faxed copy serves as the written report. Copies of the owner's written report are sent to the owner if the owner delivered the tissues and/or animal directly to the laboratory or the submission is from a farm animal species and the owner's complete address is present on the submission form.
- F. Please report any changes of address or phone number to the laboratory at this number: (615) 837-5125.
- G. Veterinarians using laboratory services may either send payment with submitted specimens or establish a charge account with the laboratory. Accumulated charges will be billed on a monthly basis. Charges will be billed on the first working day of each month; the bill will reflect fees for those cases which have had all results completed from the previous month. Remittance should be made prior to the 25th of the month. Failure to do so will result in a second billing. Failure to remit payment within two billing cycles will result in statements being forwarded to the staff attorney for collection and suspension of all laboratory services with the exception of test procedures implemented as part of program work prescribed by either TDA or USDA.

** No fee will be charged for tests performed on livestock except for serologic testing for equine infectious anemia (\$5.00). Livestock is defined as all equine as well as animals which are being raised primarily for use as food or fiber for human consumption included, but not limited to, cattle, sheep, swine, goats, and poultry.*

APPROACH TO DIAGNOSIS

The diagnostic laboratory depends on the referring veterinarian to submit quality samples which will provide optimal opportunity for the diagnosis of disease. Often we receive tissues to diagnose a specific disease entity when there are a number of other possibilities which may require additional tissues. Other times we receive tissues from animals that do not represent the disease situation. An organized, objective, and thorough approach is required to obtain the proper diagnosis. Listed below are steps to follow which aid in diagnosis.

- A. Obtain a good history; make careful and thorough clinical observations.
- B. Categorize the problem as to organs or organ systems that may be involved.
- C. Using the information obtained, form a broad list of possible diagnoses and rule out as many as possible.
- D. Narrow your list of possible diagnoses by additional clinical observations or “in house” laboratory procedures.
- E. Submit the history, clinical, and necropsy findings along with the proper tissues for diagnosing any one of the diseases listed in your differential. Follow the guidelines given on the following pages to determine which tissues are needed.
- F. If the condition is complex, or does not present a clear clinical picture, submit a broad assortment of tissues, including sections of major organs and grossly visible lesions.

ABORTIONS

- A. Diagnosis of the cause of abortion is difficult and complex.
- B. Submit multiple fetuses and placentas to increase the probability of diagnosis.
- C. Send the entire fetus and placenta to the laboratory. (Placenta is essential to diagnose some causes of abortion).
- D. Rinse the fetus and placenta with clean tap water and place them in a plastic bag. Force the air out of the bag before sealing it.
- E. Refrigerate the fetus until you are ready to ship. Ship with ice packs in an insulated container (ice chests are ideal containers).
- F. Collect and submit the first of paired serum samples from the suspected aborting animal. The second serum sample should be collected and submitted in 2-3 weeks.
- G. If a toxic condition is suspected, submit samples of the aborting animal’s feed and water.
- H. If the fetus and placenta cannot be shipped, submit the following:
 - 1. FRESH TISSUE FOR BACTERIAL CULTURE, VIROLOGY, AND DIRECT EXAMINATION
Stomach contents, placenta, liver, lung, spleen, kidney, and brain.
 - 2. HISTOPATHOLOGICAL EXAMINATION
Placenta, Lung, tongue (tip), liver, heart, adrenal, kidney, thymus, and brain.
 - 3. NITRATE
Eye or aqueous humor.

BACTERIOLOGY SUBMISSIONS

AEROBIC SPECIMENS FROM NECROPSIED ANIMALS

1. Collect all specimens as aseptically as possible. Liberal portions of each organ should be collected. If the outside of the specimen is accidentally contaminated, wash the specimen with clean tap water.
2. **Refrigerate** (wet ice packs) all specimens to prevent saprophytic growth.
3. Collect observable lesions or suspected target organs
4. For neonatal diarrhea, submit a tied off 4-5 cm segment of jejunum, ileum, and colon with the accompanying lymph nodes for culture of pathogenic bacteria.
5. Tissue specimens should be placed in individual leak-proof plastic bags and identified (use water-proof ink on bags).

MASTITIS MILK SPECIMENS

1. Wash udder to remove dirt and allow to dry.
2. Scrub teat end with alcohol soaked cotton and let dry.
3. Samples should be collected in a sterile container immediately prior to regular milking without discarding any streams of milk (since the foremilk usually contains the greatest number of the infecting micro-organisms).

SWAB SUBMISSIONS

1. Collect samples aseptically and submit in culturette swab.
2. When abscess material is available submit the exudates in a sterile container.

ANAEROBIC AND MICROAEROPHILIC SPECIMENS

Note: The success of culture for anaerobic and microaerophilic organisms is heavily dependent on sample selection and shipment.

1. Sample should be taken from a living animal or a fresh carcass.
2. Specimens should be submitted in a transport media that limits or excludes air from the sample such as an anaerobic culturette.

MYCOLOGY

COLLECTION AND CARE OF SPECIMENS

1. Submit skin scrapings from the outer edges of a lesion and submit plucked (not cut) hairs.
2. Skin, hair, and nails should be shipped to the laboratory without refrigeration.
3. Submit internal organs or internal lesions suspected of fungal infection.
4. Internal specimens should be sent refrigerated (wet ice packs) and not frozen. Use whirl-pacs and insulate.

RESULTS

Fungal isolations normally take longer than bacteria isolations; therefore, a tentative report may be made by the laboratory upon completion of direct microscopic examination of the specimen.

USERS GUIDE TO THE ANIMAL MICROBIOLOGY UNIT

The Animal Microbiology Unit of the Animal Disease Diagnostic Laboratory provides cultural examinations for a wide variety of diseases. Some of the most common are listed below:

TEST	SAMPLE
Abortion Screen	Fetus, placenta, fetal stomach contents, uterine contents, (includes culture ID for Trichomonas, Campylobacter, and Brucella)
Johne's, Acid-fast Stain Mycobacterium, Crypto	Feces, mucosal scrapings
Aerobic Culture	Fresh chilled tissue, urine, exudates, transtracheal wash
Anaerobic Culture	Fresh tissue, anaerobic culturettes, exudates
Antibiotic Sensitivity Test	Performed on isolates recovered from specimens. Please request on accession form that you would like this test done.
Blood Cultures	Blood submitted in blood culture bottles
Brucella abortus	Fetal tissues, placenta, milk, lymph nodes
Brucella canis	Fetus, testicle, placenta, uncoagulated blood in a blood culture bottle, lymph nodes, Vaginal discharge, milk, semen
Calf Scours	Feces or affected intestine
Campylobacter Culture	Submit in Amies media, of a culturette containing Cary-Blair or Amies media
Candida	Lesion, milk
Dermatomycosis	Lesion, hair, scales
Dermatophilosis	Hair and scabs (please submit a good sized sample)
Diarrhea/enteritis	Feces, affected intestine
Listeriosis	Cerebellum, pons, medulla, fetus, uterine secretions
Lumpy Jaw (Actinomyces)	Exudate, lesions, sulfur granules
Mastitis Culture	Milk submitted in whirl-packs or sterile tubes. Please notify the laboratory in advance if submitting more than 40 samples at a time.
Mycoplasma	Fresh chilled tissue, transtracheal wash, swab, milk
Paratuberculosis (Johne's)	Feces, affected intestine (please submit > a 2 gram sample)
Pinkeye (Moraxella bovis)	Culturette of affected eye. Sometimes difficult to isolate from normal flora.
Pneumonia	Lung (Please indicate if Mycoplasma, Hemophilus or Rhodococcus is suspected)
Salmonella	Feces, feed, water, environmental samples
Streptococcus equi	Exudate from non-draining lesion
Trichomonas	Preputial wash, vaginal fluid (Submit in a Trichomonas InPouch)

CLINICAL PATHOLOGY

This laboratory offers cytologic and peripheral blood smear examinations. However, we **do not do clinical chemistries**. These can best be accomplished by commercial or hospital laboratories.

I. Aspirates

Cytologic aspirates are safe, easy, and often valuable. However, cytology does have its limitations. Material collected may not always represent the ongoing process. For example, large quantities of blood in an aspirate may represent part of the pathologic process or be due to the aspiration procedure. Insufficient cellular material in an aspirate may result when working with fibrous tissue such as fibrosarcomas. The quality of the sample strongly influences the diagnostic potential of cytology. Therefore, close attention must be made to slide preparation and handling. Ideally, preparations should be thin enough to visualize individual cells but cellularity must be sufficient for diagnosis. Cells should be handled gently to prevent destruction. Because fresh cells make the best preparation, slides should be prepared promptly.

A. Fine Needle Aspiration

1. Use a 25 gauge needle with 10-12 cc syringe and precleaned slides.
2. Make several vigorous aspirates from mass.
3. In order to avoid rupturing of cells, release suction pressure before removing the needle from mass. Often the specimen will be contained only in the hub of the needle.
4. After withdrawing the needle from the mass, remove the needle from the syringe. Then, fill the syringe with air, replace needle and use aspirated air to force cellular material onto slide.
5. Make a “squash” or “pull-apart” smear by covering the material on the slide with another slide, squashing the material on the slide with digital pressure and then pulling the slides apart. This must be done quickly as cytologic material often clots rapidly.
6. Please sent 3-4 unstained, air dried smears.

Note:

Lymph node aspirates must be handled gently. Lymphocytes are frequently damaged if shear force is applied to them. This is especially true in the case of malignant lymphoblasts. Slides should be squashed together by digital pressure and pulled apart vertically rather than horizontally to avoid shear force.

B. Imprints

Imprints can be made from solid tissue. A fresh surface should be blotted to remove the majority of surface blood. Several imprints per slide should be made. Material should not be smeared.

C. Scrapings

Tissues of a fibrous nature are best sampled by scraping. A fresh surface is cut and then scraped using a clean scalpel or razor blade. The material is then gently spread across the slide.

D. Body fluids and washes

Slides from turbid fluid samples can be made in the same manner as peripheral blood slides. Clear or slightly turbid fluids should be centrifuged and the sediment spread on slides.

Smears must be made promptly after each collection. Cellular degeneration will be evident within 2 - 3 hours after collection.

E. Evaluation for blood parasites

Submit 2 unstained, air dried blood smears.

F. Only slides prepared at the time of collection will be examined. Do not submit only fluids or blood for microscopic evaluation.

II. Parasitology

- #### A. Evaluation for fecal parasites and protozoa such as cryptosporidia. Make sure enough intestinal content or feces is present in wet form (i.e. 3 - 4 grams).

Collection procedures can be reviewed in:

1. Rebar, A.H. (1978). Collection Techniques in Veterinary Cytology. In: *Handbook of Veterinary Cytology*. Pub. Ralston Purina Company, St. Louis, Missouri.
2. Crowell, R.L. and Tyler, R.D. Cutaneous and Subcutaneous Lesions: Masses, Cysts, Ulcers and Fistulous Tracts. In: *Diagnostic Cytology of the Dog and Cat*. Pub. American Veterinary Publication, Inc., Goleta, California.

PATHOLOGY SERVICES

HISTOPATHOLOGY

COLLECTION AND CARE OF SPECIMENS

1. The fresher the tissues at the time of fixation, the easier it is to interpret tissue sections and the more accurate the results.
2. Accuracy of the diagnosis is directly proportional to the collector's ability to select the specimen that represents the lesion or disease process. Poor selection can result in inaccurate interpretation.
3. Specimens should include grossly observable lesions with a small amount of normal tissue to allow identification of the organ containing the lesion.
4. Tissue specimens should include the surface and all anatomical features; for example, specimens of the kidney must include cortex, medulla, and pelvis.
5. The entire brain should be removed and cut longitudinally on the midline into two equal portions; 1/2 should be submitted in 10% BNF for histopathology and 1/2 submitted fresh for other test procedures, as indicated. (Gross examination by an experienced pathologist is often necessary to locate focal lesions for further sectioning - random samples often miss important lesions.)
6. Specimens (except the brain) should be 1/2 cm to 1 cm thick. Specimens that are too thin cannot be properly trimmed for sectioning and those that are too thick decompose before they are fixed. (Formalin will penetrate approximately 3 mm on each side per day.)
7. Fixation must begin as soon as possible after a carcass is opened or a surgical specimen is procured.
8. Ten (10) parts of fixative should be used to fix one (1) part of tissue.
9. Neutral buffered formalin is recommended for most tissues. The formula is 900 cc of water, 100 cc 40% formaldehyde, and 5 gm calcium carbonate.
10. Intestinal specimens requiring critical examination of villi (i.e. rotavirus and coronavirus infection) require special handling. The preferred method is to tie off approximately 3 cm long segments of bowel and gently fill the segments with 10% neutral buffered formalin, using a needle and hypodermic syringe.
11. Skin and uterine biopsy specimens should be placed on a piece of tongue depressor or smooth cardboard. (The subcutis or cut surface should be in contact with the wood or cardboard.)
12. The mouth of specimen containers should be wide enough to allow the tissue to drop into the bottle without touching the sides of the opening. Unfixed tissue can be easily forced into a jar that has an opening too narrow to allow removal following fixation without breaking the container.

SHIPMENT

1. Use wide mouth plastic or non-breakable bottles or vials with **leak-proof lids**.
2. Help improve our efficiency and turn-around-time. Avoid taping containers shut; it does not prevent leakage. (Refer to attached postal guidelines).
3. Pack the specimens with adequate padding to prevent breakage.
4. Avoid cramming large quantities of tissue into a small container.
5. Submit tissue in 10:1 ratio of fixative to tissue or fix the tissue and then transfer it to a smaller container with less formalin for shipment.

SUBMISSION FORM

1. Provide the requested information on the form.
2. Brief, concise, complete histories are required and aid in providing diagnoses and pertinent advice.
3. Please use black ink and **write or print legibly**.
4. List the tissues submitted, also the number of tumors. This will help insure that all submitted specimens are identified and examined.

NECROPSY SUBMISSION STANDARDS

Live animals should be in the acute stage of the disease.

Dead animals should be cooled as soon as possible after death.

1. Large animals should be thoroughly hosed down with cold water.
2. Birds, rabbits, and other fur bearing animals should be soaked in cold, soapy water, placed in a plastic bag, and refrigerated.

NOTE: Do not place animals in a plastic bag without prior cooling.

**U. S. Postal Mailing and Packaging Requirements
for Etiologic Biological Laboratory
Specimens to the Tennessee Department of Agriculture**

All etiologic and biologic specimens sent to the Department of Agriculture through the U. S. Mail must be properly packaged so the contents will not leak during shipment. Reference Domestic Mail Manual, CO23.10.0-10.7.

- The specimen must be packaged in a securely sealed watertight primary container (test tube, vial, etc.) which is then placed in a watertight, secondary plastic container with a tightly sealed closure that cannot open during shipment.

CAUTION: Do Not Use Sealable Food Bags

- The specimen container and the secondary container must then be placed in a sturdy cardboard box protected with additional absorbent packing material.
- Attach Clinical Specimen/Biological Products - Biohazard Label
- Etiologic agents and Biohazard Materials must be sent by first-class Mail, Priority Mail, or Express Mail.

SEROLOGY

- A. **DON'T'S** in submission of serum samples and tissue specimens. Experience in the past has shown the following problems associated with shipping serum samples or tissue specimens to the laboratory (in order of decreasing occurrence):
1. Bacterial contamination.
 2. Serum not separated from clots.
 3. Chemical (detergent, disinfectants, etc.) contamination of serum causing toxicity to tissue culture or otherwise adversely affecting desired tests.
 4. Hemolysis.
 5. Insufficient quantity.
 6. Overheating or freezing of blood before serum extraction.
 7. Leaky stoppers.
 8. Broken containers.
 9. Improper labeling.
 10. Rotten tissue specimens.
- B. **DO'S** in submission of serum samples and tissue specimens:
The following requirements will help prevent the above listed problems from occurring.
1. Serum
 - a) Collect blood aseptically into a sterile dry tube, refrigerate immediately, allow to clot, centrifuge, and transfer serum aseptically into a second tube.
 - b) Serum must be fresh, clear, unhemolyzed, and uncontaminated.
 - c) Red top Vacutainers[®], B-D, or other non-EDTA/heparin sterile commercially available tubes are ideal.
 2. **Label each tube** (not stopper) with **tube number** and **vet code**. Be careful that writing will be legible upon arrival (use an indelible marker). Identify specimen in a way that will avoid confusion when results are reported. Avoid using animal names. Keep your own log of sample numbers to avoid duplication and confusion. Put tubes in a box so they will not be lost or broken in the packing.
 3. Serum is preferred to be separated, by centrifugation, from clotted blood prior to submission for testing. Do not let whole blood freeze or expose to direct sunlight or high temperature before decanting serum.
 4. Submit at least 1.0 ml of serum for each test requested. Refrigerate the serum until shipment.
 5. Tissues should be collected aseptically and placed individually in well-labeled whirl-pak bags. Place individual whirl-pak bag into a single air tight container and refrigerate immediately.
 6. **Ear notches**, about 3/8 inch x 3/8 inch in size should be freshly collected in clean sterile tubes without any media or fixative in the tube. They should be shipped with sufficient amount of ice packs.
 7. Swab samples should be kept in appropriate transport media and shipped in an insulated container with ice packs.
 8. Refrigerated samples should be shipped with sufficient cool-pak bags and padding. Ship samples in a leak proof insulated container or in sturdy mailing carton which complies with postal or commercial carrier specifications (Page 10). Submit samples early in the week to avoid holding over the weekend by the carrier.
 9. A complete and legible form(s), (including a complete history), must accompany all serologic submissions. Be certain to indicate vaccination history. "All and Current" is not an appropriate vaccination history.
 10. Diagnostic serology samples must be submitted independently from program serology.
EXAMPLE: Serum for Leptospira, IBR, BVD testing must be submitted separately from serum for Brucellosis or "Bangs" serology.
 11. All regulatory charts must include the submitting veterinarian's signature, vet code, and animal identification.

12. Flock check serology should be based upon a sample size of 20-30 samples per flock. National Poultry Improve Plan (NPIP) testing may require larger number of samples.
13. This laboratory is officially certified to perform agar gel immunodiffusion test for *bluetongue*, *bovine leukosis*, and *equine infectious anemia* (the Coggins test for *EIA*), ELISA for *Johne's*, *pseudorabies* serology that includes serum neutralization, latex agglutination and ELISA, and PCR for avian influenza, exotic Newcastle disease, foot-and-mouth-disease and classical swine fever.
14. Equine Infectious Anemia serology (Coggins test) requires at least two (2) ml of clear, fresh, unhemolyzed serum and takes up to 48 hours to complete. Each tube of serum submitted should be identified with **vet code** and the **tube number** corresponding to the tube number on the submission form. A **mane tag** is to be affixed to each horse tested and **tag number** recorded on the submission form. EIA results will be available after 8:30 A.M. the work day following the receiving of serum sample. If additional tests other than EIA are requested, please, submit two samples. The submission form must be completely and correctly completed and signed by the submitting veterinarian. **The lab cannot make any changes or fill in any missing information. All forms not properly completed will be returned for completion.**
15. **Exports:** The submitting veterinarian is responsible for informing the laboratory of any special requirements (i.e., dilutions, type of test). If this information is not supplied, a delay on the required test result could happen.
For information on test regulations, call:
Federal - USDA, APHIS, VS, Veterinarian in Charge - (615)781-5310
State - Office of the State Veterinarian - (615) 837-5120
The samples must be received 10 to 14 working days before the animals are scheduled to leave for the destination.
16. When calling for results, the laboratory must have the submitting veterinarian's name, the owner's name, the animal's name or ID, the sample number or ID, submitting date and bleeding date exactly as provided on the submission form.
17. Advance notice (7-10 days ahead) should be given (and will be greatly appreciated) when submitting a large number of samples.
18. For serodiagnosis in the individual animal, paired sera are recommended to test for specific antibody: the first sample taken when the animal is initially examined (acute phase serum) and the second sample 2-4 weeks later (convalescent phase serum). A rise in antibody titer between the paired samples is a basis for a specific serologic diagnosis for a particular disease. The paired serum samples should be submitted together in order to obtain a better understanding of the diagnostic significance of titers as they relate to the clinic status of the animal.
19. If only a single serum sample can be obtained, it must be taken from a convalescent animal. An acutely ill animal is virtually devoid of antibody against the particular disease-causing agent.
20. If only acutely ill animals are present, swabs or tissues for isolation or culture of the causative agent should also be submitted.

Key to abbreviations for Serology Test Chart:

AGID - Agar gel Immunodiffusion
 CA - Card Agglutination
 CF - Complement Fixation
 ELISA - Enzyme Linked Immunosorbent Assay
 FA - Fluorescent Antibody (Direct)
 HI - Hemagglutination Inhibition
 IFA - Indirect Fluorescent Antibody
 IHA - Indirect Hemagglutination

LA - Latex Agglutination
 MA - Microagglutination
 NVSL - National Veterinary Services Laboratory
 PCR - Polymerase Chain Reaction
 SN - Serum Neutralization
 SPA - Serum Plate Agglutination
 TA - Tube Agglutination

SEROLOGY TEST CHART

Note: All set up date and timetables are an approximation and are subject to change. Please call with any questions or special requests.

TEST	SPECIMEN	SHIPPING CONDITION	TYPE OF TEST	DAYS SET UP	SPECIAL COMMENTS
<u>Avian</u>					
Avian Influenza	Serum	Refrigerated	AGID	M,Tu,W, Thur	Requires at least 1 ml of serum
	Swab (cloacal, tracheal, oropharyngeal)	Refrigerated	Strip test	M-F	
	Swabs (cloacal, tracheal, oropharyngeal)	Refrigerated	PCR		Special request is required.
Chlamydia	Spleen, liver, lung, air sac, conjunctival swab	Refrigerated	FA	M-F	
Mycoplasma gallisepticum	Serum	Refrigerated	HI SPA	M-F	Requires at least 1 ml of serum.
Mycoplasma synoviae	Serum	Refrigerated	HI SPA	M-F	Requires at least 1 ml of serum
Salmonella pullorum	Serum	Refrigerated	MA	Once a week	
<u>Canine</u>					
Anti-nuclear Antibody	Serum	Refrigerated	IFA	M-F	IgG determination. Samples are tested at 1:10, 1:50, 1:250, 1:1250 dilutions.
Blastomycosis	Serum	Refrigerated	AGID	M-F	
Brucella canis	Serum	Refrigerated	CA	M-F	Samples are screened by the card test. Positives will not be reported until confirmed by the tube test.
		Refrigerated	TA	M,Tu,W	Samples are tested at 1:50, 1:100, 1:200 dilutions. A 1:50 titer is considered as Suspicious. A titer \geq 1:100 is considered Positive.
Calicivirus	Serum	Refrigerated	IFA	M-F	IgG, IgM determination. Samples are tested at 1:10, 1:50, 1:250, 1:1250 dilutions.
Coronavirus	Small intestine	Refrigerated	FA	M-F	
	Serum	Refrigerated	IFA	M-F	IgG, IgM determination. Samples run at 1:10, 1:50, 1:250, 1:1250 dilutions.
Cryptococcus	Serum	Refrigerated	LA	Outsource	Fee \$19.00

Note: All set up date and timetables are an approximation and are subject to change. Please call with any questions or special requests.

TEST	SPECIMEN	SHIPPING CONDITION	TYPE OF TEST	DAYS SET UP	SPECIAL COMMENTS
Distemper Virus	Lung, kidney, spleen, urinary bladder, brain, stomach, liver, blood smear	Refrigerated	FA	M-F	
	Serum	Refrigerated	IFA	M-F	IgG, IgM determination. Samples run at 1:10, 1:50, 1:250, 1:1250 dilutions.
Ehrlichia canis	Serum	Refrigerated	IFA	M-F	Samples are tested at 1:50 dilution.
Herpesvirus	Lung, liver, kidney, spleen, lymph node	Refrigerated	FA	M-F	
	Serum	Refrigerated	IFA	M-F	IgG, IgM determination. Samples run at 1:10, 1:50, 1:250, 1:1250 dilutions.
Histoplasmosis	Serum	Refrigerated	AGID	M-F	
Infectious Canine Hepatitis	Serum	Refrigerated	IFA	M-F	IgG, IgM determination. Samples run at 1:10, 1:50, 1:250, 1:1250 dilutions.
Lyme disease	Serum	Refrigerated	IFA	M-F	Samples run at 1:64, 1:128, 1:256, 1:512 dilutions.
Neospora caninum	Brain, lung, liver, kidney, muscle, skin	Refrigerated	FA	M-F	
	Serum	Refrigerated	IFA	M-F	Samples are tested at 1:50.
Parvovirus(CPV)	Intestine (jejunum, ileum), spleen, mesenteric lymph node	Refrigerated	FA	M-F	
	Serum	Refrigerated	IFA	M-F	IgG, IgM determination. Samples run at 1:10, 1:50, 1:250, 1:1250 dilutions.
Rocky Mountain Spotted Fever (RMSF)	Serum	Refrigerated	IFA	M-F	Samples run at 1:64, 1:128, 1:256, 1:512 dilutions.
Equine					
Equine Infectious Anemia (EIA)	Serum	Refrigerated	AGID	M-F	Complete EIA form (VS Form 10-11) with submitting veterinarian's signature is required.

Note: All set up date and timetables are an approximation and are subject to change. Please call with any questions or special requests.

TEST	SPECIMEN	SHIPPING CONDITION	TYPE OF TEST	DAYS SET UP	SPECIAL COMMENTS
Equine Rhinopneumonitis Virus (ERV)	Lung, liver, spleen, fetal tissues	Refrigerated	FA	M-F	Samples are tested at dilutions: 1:4, 1:8, 1:16, 1:32, 1:64, 1:128, 1:256.
	Serum	Refrigerated	SN	M, Th, F	
Potomac Horse Fever (PHF)	Serum	Refrigerated	IFA	M-F	Samples are tested at dilutions: 1: 80.
West Nile virus WNV)	Serum	Refrigerated	ELISA	Once a week	Tested at 1:400.
	Cerebrospinal fluid	Refrigerated	ELISA	Once a week	Tested at 1:2.
<u>Feline</u>					
Chlamydia	Conjunctival smear, nasal swab, lung	Refrigerated	FA	M-F	
Feline Calicivirus	Serum	Refrigerated	IFA	M-F	Samples are tested for IgG titers at 1:10, 1:50, 1:250, 1:1250 dilutions.
Feline Herpesvirus	Nasal swab, conjunctival swab, tonsil, trachea, lung	Refrigerated	FA	M-F	Samples are tested for IgG titers at 1:10, 1:50, 1:250, 1:1250 dilutions.
	Serum	Refrigerated	IFA	M-F	
Feline Immunodeficiency Virus (FIV)	Serum	Refrigerated	IFA	M-F	Samples are tested at 1:25 dilutions.
Feline Infectious Peritonitis (FIP)	Affected tissues (liver, spleen, lymph nodes, <i>brain</i>)	Refrigerated	FA	M-F	Samples are tested at 1:6400 dilution.
	Serum, pleural or peritoneal fluid	Refrigerated	IFA	M-F	

Note: All set up date and timetables are an approximation and are subject to change. Please call with any questions or special requests.

TEST	SPECIMEN	SHIPPING CONDITION	TYPE OF TEST	DAYS SET UP	SPECIAL COMMENTS
Feline Leukemia (FeLV)	Blood smears	Slide mailers	IFA	M-F	Submit at least 2 smears. Thick smears are not acceptable. Do not use old or used slides.
	Serum	Refrigerated	IFA	M-F	Samples are tested at 1:25 dilutions.
Panleukopenia(FPL)	Small intestine, lymph node, spleen, aborted fetus	Refrigerated	FA	M-F	
	Serum	Refrigerated	IFA	M-F	Samples are tested for IgG titers at 1:10, 1:50, 1:250, 1:1250 dilutions.
Toxoplasmosis	Serum	Refrigerated	IHA	M-F	A titer \geq 1:64 is considered positive.
Porcine					
<i>E.coli</i> Pilus	Small intestine, feces	Refrigerated	IFA	M-F	Test for K88, K99, P987 serotypes
Hemagglutinating Encephalomyelitis Virus	Brain	Refrigerated	FA	M-F	
Leptospirosis	Serum	Refrigerated	MA	M-F	Test for 6 serovars - canicola, grippotyphosa, hardjo, icterohemorrhagiae, pomona, and bratislava. Samples are tested at an initial dilution 1:100.
	Kidney	Refrigerated	FA	M-F	
Porcine Parvovirus	Fetal tissues	Refrigerated	FA	M-F	Tested at 1:10, 1:50, 1:250, 1:1250 dilutions. A single serum sample from the dam is of little value since the breeding herd is often seropositive.
	Fetal serum or fetal fluid	Refrigerated	IFA	M-F	
Porcine Respiratory and Reproductive Syndrome (PRRS)	Serum	Refrigerated	IFA	M-F	Samples are tested at 1:20 dilution.

Note: All set up date and timetables are an approximation and are subject to change. Please call with any questions or special requests.

TEST	SPECIMEN	SHIPPING CONDITION	TYPE OF TEST	DAYS SET UP	SPECIAL COMMENTS
Pseudorabies	Brain, lung, tonsil, kidney	Refrigerated	FA	M-F	Results are reported as positive or negative. Serum samples must be clear, unhemolyzed. Serum is screened at 1:4 dilution
	Serum	Refrigerated	ELISA-gp1	Special request required M-F	
	Serum	Refrigerated	LA		
	Serum	Refrigerated	SN	M, Tu, W,F	
Rotavirus	Feces, intestine	Refrigerated	ELISA	M-F	
Swine Influenza	Nasal secretions, trachea, lung	Refrigerated	FA	M-F	
Transmissible Gastroenteritis (TGE)	Intestine (jejunum, ileum)	Refrigerated	FA	M-F	
<u>Ruminant</u>					
Anaplasmosis	Serum	Refrigerated	CA	M-F	Samples must be at least 24 hours old from time of collection to time test conducted. Time of collection must be written on submission form. Result is reported as positive or negative. Titers begin at 1:5.
	Serum	Refrigerated	CF	M-F	
	Serum	Refrigerated	ELISA	Once a week	
Bluetongue	Serum	Refrigerated	AGID	M-F	
Bovine Leukosis (BLV)	Serum	Refrigerated	AGID	M,Tu,W,F	

Note: All set up date and timetables are an approximation and are subject to change. Please call with any questions or special requests.

TEST	SPECIMEN	SHIPPING CONDITION	TYPE OF TEST	DAYS SET UP	SPECIAL COMMENTS
Bovine Respiratory Syncytial Virus (BRSV)	Lung, bronchial lymph node	Refrigerated	FA	M-F	Samples are tested at 1:50 dilution.
	Serum	Refrigerated	IFA	M-F	
Bovine Viral Diarrhea (BVD)	Lung, intestine, turbinate, trachea, swabs from lesions, fetal organs	Refrigerated	FA	M-F	Tested at dilutions: 1:4, 1:8, 1:16, 1:32, 1:64, 1:128, 1:256.
	Serum	Refrigerated	SN	Tu -F	
Bovine Viral Diarrhea Persistent Infection (BVD PI)	Ear notch, serum	Refrigerated	ELISA	Once a week	Ear notches are the samples of choice.
Caprine Arthritis-Encephalitis (CAE) / Ovine Progressive Pneumonia (OPP)	Serum	Refrigerated	AGID	M-F	
Chlamydia	Lymph node, tissues of aborted fetus, joint fluid	Refrigerated	FA	M-F	Specifically request chlamydia.
Clostridium	Gangrenous muscle, liver, lung	Refrigerated	FA	M-F	Test for <i>C. chauvoei</i> , and <i>C. novyi</i> .
Coronavirus	Intestine (spiral colon, ileum, and jejunum)	Refrigerated	FA	M-F	
<i>E.coli</i> Pilus	Small intestine	Refrigerated	IFA	M-F	Test for K99 serotype
Epizootic Hemorrhagic Disease (EHD)	Serum	Refrigerated	AGID	M-F	

Note: All set up date and timetables are an approximation and are subject to change. Please call with any questions or special requests.

TEST	SPECIMEN	SHIPPING CONDITION	TYPE OF TEST	DAYS SET UP	SPECIAL COMMENTS
Infectious Bovine Rhinotracheitis (IBR)	Lung, trachea, turbinate, aborted fetal tissues	Refrigerated	FA	M-F	
	Serum	Refrigerated	SN	Tu,W,TH,F	Tested at dilutions: 1:4, 1:8, 1:16, 1:32, 1:64, 1:128, 1:256.
Johne's Disease (Mycobacterium paratuberculosis, Mptb)	Serum	Refrigerated	CF	M-F	Titers: 1:8 – Negative, 1:16 – Suspicious, 1:32 – Positive.
	Serum	Refrigerated	ELISA	Once a week	
	Bacterial culture		PCR	Once a week	PCR is used as a confirmatory assay for the growth of Mptb in bacterial cultures.
Leptospirosis	Kidney	Refrigerated	FA	M-F	Test for 6 serovars - canicola, grippityphosa, hardjo, icterohemorrhagiae, pomona, and bratislava. Samples are tested at an initial dilution 1:100.
	Serum	Refrigerated	MA	Twice a week	
Listeria	Serum	Refrigerated	CA	M-F	Test for Type 1 and Type 4 serotypes. Serum is screened at an initial dilution 1:20.
Neospora caninum	Brain, lung, kidney, liver	Refrigerated	FA	M-F	
	Serum	Refrigerated	IFA	M-F	Tested at 1:200 dilution.
Rotavirus	Feces, intestine (spiral colon, ileum, and jejunum)	Refrigerated	ELISA	M-F	
Toxoplasmosis	Serum	Refrigerated	IHA	M-F	A titer \geq 1:64 is considered positive.

TOXICOLOGY (Sampling)

Test	Minimum Sample Required	Comments:	Approx Analysis Time (days)
Aflatoxin	1 lb. feed (grain)	No hay or silage	2-3
Anticoagulant (screen)	5 ml serum, blood (preferred), plasma, urine 10 g bait 20 g liver	Includes: Warfarin, Bromadiolone, Difenacoum, Brodifacoum, Diphacene, Chlorophacinone, Coumachlor, Coumatetralyl, Cumafuzyl, Difelthione, Flocoumafen, Pyranocoumarin Avoid submitting samples in medicine bottles. Do not freeze sample	2-3
Arsenic	10 g liver and kidney 10 ml urine 10 ml blood 10 g stomach contents 10 ml water 50 g soil 10 g feed	Liver or kidney is the preferred sample from a dead animal.	3-4
BUN	2 ml ocular fluid 2 ml serum or plasma		2-3
Calcium	2 ml ocular fluid 2 ml serum		1-2
Carbamate (Pesticide Screen)	10 g stomach contents 20 g rumen contents 10 g bait 20 g feed	Avoid submitting samples in medicine bottles or plastic containers. Glass is preferred.	2-4
Copper	5 ml serum 10 g liver or kidney 20 g feed	Liver is preferred over kidney.	1-3

1. Non-routine = Tests analyzed less than 2 times a year; expect > 10 days for analysis.
2. Completion of analysis in the time frames indicated depends on sample load and complexity of the test.

Test	Minimum Sample Required	Comments:	Approx Analysis Time (days)
Cyanide	Plants with cyanogenetic potential i.e. sorghums, sudan grass, corn 1 lb. dry plants 5 lb. wet plants 10 ml blood (preferred) 50 g muscle (heart) 20 g rumen content or stomach content	Samples should be quick frozen as soon as possible for shipment to the lab.	1-2
Dicumarol (Non-routine)	Feeds containing sweet clover 5 lb. wet plants 1 lb. dry plants 10 -20 ml blood		
Drug Screen *See end, for list of drugs included in screen.	10 - 20 ml serum, whole blood (plasma) 10 - 20 ml urine 10 g bait, pills 10 g stomach contents	Avoid submitting samples in medicine bottles. Urine is the preferred sample.	2-3
Ethylene glycol	5 ml urine 5 ml serum, plasma 10 g stomach contents 10 g bait		2-3
Fumonisin	1 lb. feed	No hay or silage.	3-4
Gossypol, free (Non-routine)	1 lb. feed containing cottonseed		
Iron (Non-routine)	10 ml serum		
Lead	5 ml blood, (EDTA, heparin) 10 g liver and kidney 10 ml water 10 g stomach contents	Heparin is preferred. Submit both liver and kidney.	3-4
Magnesium	2 ml ocular fluid 2 ml serum		1-2

Test	Minimum Sample Required	Comments:	Approx Analysis Time (days)
Monensin	1 lb. feed		4-5
Nitrate (qualitative)	2 ml ocular fluid		1-2
Nitrate (quantitative)	1 lb. dry forage 5 lb. wet forage 1 pt water		1-2
Ochratoxin	1 lb. feed (grain)	No hay or silage.	2-3
Organochlorines (pesticide screen)	10 g stomach contents 20 g rumen contents 10 g liver or fat 10 ml blood	Avoid submitting samples in medicine bottles or plastic containers. Glass is preferred.	2-4
Organophosphates (pesticide screen)	10 g stomach contents 20 g rumen contents 20 g feed	Avoid submitting samples in medicine bottles or plastic containers. Glass is preferred.	2-4
Potassium	2 ml ocular fluid 2 ml serum		2-3

Test	Minimum Sample Required	Comments:	Approx Analysis Time (days)
Selenium	10 g liver or kidney 10 ml whole blood 10 ml serum	Whole blood is preferred over serum.	3-4
Sodium (Non-routine)	2 ml ocular fluid 2 ml serum 2 ml urine 1 lb. feed		
Strychnine	10 g stomach contents 10 ml urine 5 ml serum 50 g kidney (more if available)	Avoid submitting samples in medicine bottles.	1-3
T-2	1 lb. feed (grain)	No hay or silage.	2-3
Urea (NPN) (Non-routine)	1 lb. feed		
Vomitoxin	1 lb. feed (grain)	No hay or silage.	2-3
Zearalenone	1 lb. feed	No hay or silage.	2-3
Zinc	10 g liver or kidney 5 ml serum 10 g stomach contents 1 lb. feed 5 ml serum	Serum sample should be in Royal blue top vacutainer tube for trace metal analysis.	2-3

***Drug Screen**

Drug Screen A					Drug Screen B		
Acetaminophen	Cocaine	Meperidine	Morphine	Pseudoephedrine	Amobarbital	Ethinamate	Phenytoin
Amitriptyline	Codeine	Meprobamate	Nicotine	Quinine	Aprobarbital	Glutethimide	Secobarbital
Amphetamine	Diazepam	Methamphetamine	Nortriptyline	Strychnine	Barbital	Pentobarbital	
Caffeine	Doxepin	Methadone	PCP	Trifluopromazine	Butabarbital	Phenobarbital	
Chlorpromazine	Imipramine	Methaqualone	Propoxyphen	Trimiprazine	Diazepam		

Call the lab if drug of interest is not listed.

10 gram of tissue is approximately equal in size to a golf ball.

VIROLOGY

1. Rabies: This lab does not do rabies examinations. Brain tissue from an animal suspected of having rabies must be submitted directly to the regional public health laboratory. Addresses of regional public health laboratories are on page 26.
2. Collect the specimens during the early stage of clinical diseases (the acute phase).
3. Collect swabs, feces, or tissue specimens as aseptically as possible.
4. Place the specimens individually in well labeled sterile test tube (swab) or whirl-pak bag.
5. Refrigerate or freeze the samples immediately after collection.
6. Do not let EDTA-blood freeze or be exposed to direct sunlight or high temperature prior to submitting for bovine viral diarrhea (BVD) virus isolation from buffy coat. Keep the EDTA-blood refrigerated.
7. Specimens should be sent to this lab as quickly as possible, preferably within 24-48 hours.
8. Ship refrigerated or frozen samples with sufficient cool-paks. Use leak proof insulated styrofoam containers or sturdy mailing cartons, which comply with postal or commercial carrier specifications, to ship the samples. Submit samples early in the week to avoid holding over weekend by the courier.
9. Brief information concerning history of disease, number, and age of animals affected, vaccination, etc. should accompany the samples.
10. When using "culturette" swabs, do not break the ampule as it may contain media which is inhibitory to some viruses.
11. Virus isolation is performed on Tuesday, Wednesday, and Friday. It requires 7 to 14 days for completion.
12. Isolation of a microorganism does not confirm that it is the causative agent of the illness. Failure to isolate the suspected etiologic agent does not rule out the suspected disease.

VIROLOGY TEST CHART

TESTS	SPECIMEN	SHIPPING CONDITION	TYPE OF TEST	SPECIAL COMMENTS
<u>Canine</u>				
Canine Adenovirus	Lung, liver, kidney, spleen, lymph node	Refrigerated	VI	
Canine Calicivirus	Oropharyngeal swab, fecal swab, trachea, lung, kidney, intestine	Refrigerated	VI	
Canine Herpesvirus	Lung, liver, kidney, spleen, lymph node	Refrigerated	VI	
Canine Parvovirus	Small intestine, spleen, mesenteric lymph node	Refrigerated	VI	
<u>Equine</u>				
Equine Rhinopneumonitis Virus (ERV)	Lung, trachea, nasal swab, fetal organs	Refrigerated	VI	
<u>Feline</u>				
Feline Calicivirus	Oropharyngeal swab, nasal swab, lung, trachea	Refrigerated	VI	
Feline Herpesvirus (Feline Rhinotracheitis)	Nasal swab, tonsil, trachea, lung	Refrigerated	VI	
Feline Panleukopenia (Feline Distemper)	Small intestine, spleen, lymph node, fetal tissue	Refrigerated	VI	
<u>Porcine</u>				
Porcine Respiratory and Reproductive Syndrome (PRRS)	Lung, spleen, liver, tonsil, fetal tissues	Refrigerated	VI	Specifically request PRRS.
Porcine Parvovirus	Fetal tissues, spleen, lymph nodes	Refrigerated	VI	
Pseudorabies	Brain, tonsil, lung, spleen	Refrigerated	VI	
Swine Influenza	Lung, spleen, lymph node, nasal swab	Refrigerated	VI	Specifically request influenza.

TESTS	SPECIMEN	SHIPPING CONDITION	TYPE OF TEST	SPECIAL COMMENTS
<u>Ruminant</u>				
Bovine Respiratory Syncytial Virus (BRSV)	Lung, trachea	Refrigerated	VI	Specifically request BRSV isolation.
Bovine Viral Diarrhea (BVD) /Mucosal Disease	Buffly coat (EDTA blood), lung, intestine, spleen, fetal tissues	Refrigerated	VI	Please notify the laboratory regarding herd screening.
Infectious Bovine Rhinotracheitis (IBR)	Lung, trachea, fetal tissues	Refrigerated	VI	
Poxvirus	Skin lesion	Refrigerated	VI	

Key to abbreviations:

VI - Virus isolation

OTHER SOURCES OF HELP IN TENNESSEE

State Veterinarian's Office
Dr. Ronald B. Wilson

Phone (615) 837-5120

Tennessee Department of Public Health
John Dunn

Phone (615) 741-7247

USDA-APHIS - Veterinary Services

Phone (615) 781-5310

State/Federal Brucellosis Records
(Brucellosis Results)

Phone (615) 837-5120

College of Veterinary Medicine, U.T. Knoxville

Phone (865) 974-8387

Rabies Laboratories (Specimen Mail, U.S. Postal Services)

Tennessee Department of Health & Environment
Laboratories Services

Phone (615) 262-6350

630 Hart Lane or (if mailing) P.O. Box 305130
Nashville, TN 37247 Nashville, TN 37230-5130

Jackson Branch Rabies Laboratory
Tennessee Department of Health
295 Summar Avenue
Jackson, TN 38302-0849

Phone (731) 426-0686

Knoxville Branch Rabies Laboratory (U.S. Postal)
East Tennessee Regional Office
1522 Cherokee Trail
P.O. Box 59019
Knoxville, TN 37950-9019

Phone (865) 549-5201

TENNESSEE POISON CONTROL CENTER

State Coordinator Tennessee Department of Public Health
Division of Emergency Services
Nashville, TN 37219

Nashville Poison Control Center
(615) 936-2034 Vanderbilt University Hospital
1211 22nd Avenue, South 37232

U. S. Regional Poison Control Center:

Atlanta Georgia Poison Control Center
(404) 616-9000 Grady Memorial Hospital
80 Butler St., S.E.
(800) 282-5846 Atlanta, GA 30335

Reportable Diseases

The reporting of evidence of certain animal diseases is a requirement under Standards for Accreditation of Veterinarians in Tennessee and other states. Such reporting is also required by State law in Tennessee.

Most important, perhaps, is the veterinarians professional responsibility to report these diseases properly to insure that appropriate control measures may be instituted. Reportable diseases in general include all diseases for which control or eradication programs are in effect, and all foreign diseases (not known to exist in this country).

Reportable diseases currently include but are not limited to:

Avian

Fowl Plague
Fowl Typhoid
Pullorum Disease
Velogenic Viscerotropic Newcastle Disease

Bovine

Anthrax
Brucellosis
Rabies
Scabies (psoroptic)
Screwworms
Tuberculosis
Vesicular Diseases

Porcine

African Swine Fever
Anthrax
Brucellosis
Hog Cholera
Pseudorabies
Rabies
Screwworms
Vesicular Diseases

Canine and Feline

Rabies

Suspected or known rabies infection should be reported to local public health authorities. Reporting should include telephone or written notice to the State Veterinarian's office and submission of samples to the appropriate laboratory.

Equine

Anthrax
Equine Infectious Anemia
Piroplasmosis
Rabies
Screwworms
Vesicular Diseases
Viral Encephalitis

Sheep & Goats

Anthrax
Bluetongue
Rabies
Scabies
Scrapie
Screwworms
Vesicular Diseases

TENNESSEE DEPARTMENT OF AGRICULTURE
C. E. KORD ANIMAL DISEASE LABORATORY, DIVISION OF REGULATORY SERVICES
SUBMISSION QUESTIONNAIRE
(Use other side for biopsy submission)

CLINIC _____	Date _____
VETERINARIAN _____	OWNER _____
STREET _____	STREET _____
CITY _____ ST _____ ZIP _____	CITY _____ ST _____ ZIP _____
COUNTY _____ CO.# _____	COUNTY _____ CO.# _____
PHONE (____) _____ FAX (____) _____ PHONE (____) _____	
(If call desired, include Area Code)	

PLEASE CIRCLE BELOW WHERE APPLICABLE:

SPECIES: avian bovine canine equine feline porcine other _____ **BREED:** _____

AGE: _____ days months years **SEX:** female male neuter

SPECIMEN(s) SUBMITTED:

Fixed: Brain Heart Stomach Intestine Liver Lung Spleen Kidney Other _____

Fresh: Brain Heart Stomach Intestine Liver Lung Spleen Kidney Other _____

Serum Blood Ocular Fluid Urine Stomach contents Feed Other _____

EXAM REQUESTED: Necropsy Histopathology Cytology Culture Sensitivity FA Serology Toxicology Virology

TEST FOR: _____

Duration of Illness _____

Treatments: Antibiotics Corticosteroids Fluids Other _____

Vaccination Status: None Up to Date Unknown

Vaccinated for: _____

Number of Animals in Group: ____ No. sick ____ No. dead ____

HISTORY: (Clinical signs, management practices, ration, history of disease, etc.)

Telephone #615-837-5125

Fax #615-837-5250

U. S. Postal Service Address:

C. E. Kord Animal Disease Laboratory
P. O. Box 40627 Melrose Station
Nashville, TN 37204-0627

Need Forms (?) Yes ____ No ____

Overnight Delivery Address:

C. E. Kord Animal Disease Laboratory
Ellington Agricultural Center
440 Hogan Rd.
Nashville, TN 37220

CLINIC _____ **BIOPSY**
Date _____
VETERINARIAN _____ **OWNER** _____
STREET _____ **STREET** _____
CITY _____ **ST** _____ **ZIP** _____ **CITY** _____ **ST** _____ **ZIP** _____
COUNTY _____ **CO.#** _____ **COUNTY** _____ **CO.#** _____
PHONE (____) _____ **FAX** (____) _____ **PHONE** (____) _____ (If call desired, include Area Code)

PLEASE CIRCLE BELOW WHERE APPLICABLE:

Exam Requested: Histopath Cytology Cult. Sens. FA Sero. Tox. Vir. Other _____

Specimen(s) submitted _____

SPECIES: avian bovine canine equine feline porcine other _____ **BREED:** _____

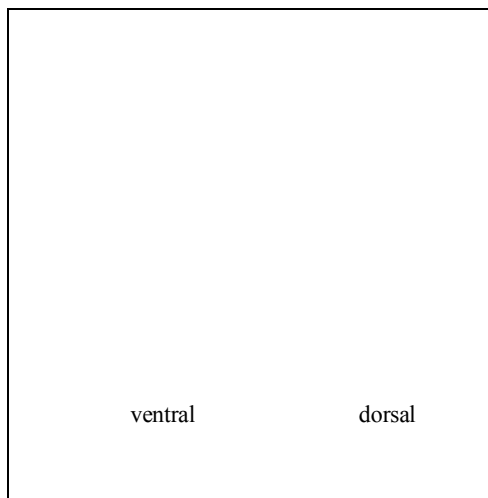
AGE: _____ days months years **SEX:** female male neuter

BIOPSY: Size: <1 cm dia. 1-5 cm >5 cm
 Removal: incisional excisional
 Character: discrete infiltrative Pruritic: Y N Seasonal: Y N
 Consistency: cystic firm hard other _____
 Distribution: focal multifocal symmetrical non-symmetrical

Duration: _____

Site: Specify below

History: _____



U. S Postal Service and Overnight Address

See Other Side

Need Forms (?)

Yes No

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